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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,007	11/20/2003	Alan Michael Jaffee	7237	8750

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EXAMINER	
TORRES VELAZQUEZ, NORCA LIZ	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/718,007	JAFFEE ET AL.	
	Examiner	Art Unit	
	Norca L. Torres-Velazquez	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-69,71-94 and 99* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51-69,71-94 and 99* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/23/06 has been entered.

Response to Amendment

2. Claims 51-69, 71-94 and 99 are pending.

3. The Declaration under 37 CFR 1.132 filed 8/23/06 is insufficient to overcome the rejection of claims 51-69 and 71-94 based upon 35 USC 103(a) rejections over GEEL in view of ARKENS, and also over CHENOWETH in view of ARKENS as set forth in the last Office action because: the showing is not commensurate in scope with the claims. It is noted that the present invention as claimed is directed to a nonwoven mat not to the argued ceiling panels discussed in the Declaration. The Examiner has met the physical structure of the claimed mat. It is noted that reciting the physical and chemical characteristics of the claimed product will not suffice where it is not certain that a sufficient number of characteristics have been recited that the claim reads only on the particular compound which the applicant has invented. *Ex parte Siddiqui* 156 USPQ 426 ; *Ex parte Davission et al.* 133 USPQ 400 ; *Ex parte Fox* 128 USPQ 157.

4. It is noted that the rejection of the claims under the non-statutory double patenting doctrine over 10/717,802 in view of GEEL are maintained herein for the same reasons stated above.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 51-69 and 71-89 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 51 claims a blend of fibers comprising 80-92% chopped glass fibers and 5-20% polymer fibers. It is noted that a balance of 3% is not accounted for when there is 92% glass fibers and 5% polymer fibers. The claim is rendered indefinite, as it is not clear if there is another material not recited in the claim that needs to be there and accounted for. Accordingly, claims 52-69 and 71-89 are rendered indefinite, as they are dependent on claim 51.

7. Claim 90 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 90 is dependent on canceled claim 70. For examining purposes, the Examiner assumes that it is dependent on claim 69.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 51-69, 71-94, 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over GEEL (US 2003/0109190 A1) in view of ARKENS et al. (US 5,661,213), and further evidenced by CHENOWETH et al. (US 4,888,235).

GEEL discloses a nonwoven reinforcing mat that includes a base web having about 10 to about 80 percent by weight glass fibers, about 20 to about 90 percent by weight polyethylene terephthalate fibers and binders. (Abstract) The reference uses polyethylene terephthalate (polyester) fibers as the polymer fibers with diameter of from about 6 to about 16 microns and a length of from about 4 to about 25 mm [*0.15-0.98 inches*]. (Refer to [0008]-[0009]) Geel teaches that the polyethylene terephthalate fibers utilized in their invention have a melting point above about 250°C and maintain their fiber character to at least a temperature of 220°C. The reference also teaches that aramid or any other synthetic fiber meeting such requirement may be utilized. [0019] The reference teaches the use of binders that may be self-crosslinking, non-crosslinking or crosslinked by addition of a suitable agent. [0021] The binder is in an amount of about 10 to about 30 percent of the total weight of the base web fibers and binder. [0017]

While the mat of GEEL provides the claimed fibers, the reference fails to use a binder that is at least partially cured and comprises before drying and curing a homopolymer or a copolymer of polyacrylic acid and a polyol.

ARKENS et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches the use of their binder for heat-resistant nonwoven fabrics such as, for example, nonwovens that contain heat-resistant fibers such as for example, aramid fibers, certain

polyester fibers, glass fibers, among others. By "heat-resistant fibers" is meant (in Arkens et al.), fibers which are substantially unaffected by exposure to temperatures above 125°C. (Refer to Col. 8, lines 23-31) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components. (Refer to Col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3)

Since both references are directed to heat-resistant materials and nonwoven mats comprising such heat-resistant fibers (aramid, polyester, glass fibers, etc.), the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of GEEL.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of GEEL and provide them with the binder composition of ARKENS et al. with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS et al. (Col. 1, lines 11-55).

Although the prior art of GEEL in combination with ARKENS does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength and the claimed Taber Stiffness it is reasonable to presume that this property is inherent to a mat from the combination of GEEL

and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength and the Taber Stiffness would obviously have been present one the product form the combination of GEEL and ARKENS is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

With regards to the claimed property of passing the NFPA Method #701 Flammability Test, it is the Examiner's position that such property will also be inherent to the structure from the combination of Geel and Arkens for the same reasons stated in the paragraph above. Applicant's ranges for the concentration of polyester fibers are broad and encompass typical values that are found in the prior art as evidenced by CHENOWETH et al. (Refer to Abstract and Table I). Since each of the elements are recognized as result effective variables in this field of endeavor and it has been held that discovering optimum values would have been or result effective variables involves only routine experimentation.

10. Claims 51-69, 71-94, 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHENOWETH et al. (US 4,888,235) in view of ARKENS et al. (US 5,661,213).

CHENOWETH et al. discloses a nonwoven matrix of glass and synthetic fibers that provides a rigid but resilient product having good strength and insulating characteristics. The matrix consists of glass fibers and synthetic fibers such as polyester or aramid fibers combined

with a thermosetting resin. (Abstract) The reference teaches using the nonwoven in applications such as sheets and panels as well as other thin-wall products such as insulation. (Col. 1, lines 19-22) The fiberized glass fibers have a diameter of three to ten microns. (Col. 2, lines 21-22) The length of the individual fibers 12 (glass fibers), may vary over a range of from approximately one half inch or less to approximately 3 inches. (Col. 3, lines 65-68) The reference also teaches that the loft/density of the blanket may be adjusted by appropriate selection of the diameter and/or length of the synthetic, second fibers 14. Fiber in the range of 25 to 40 microns with one to four inches in length provide more loft to the blanket; whereas smaller and/or shorter fibers in the range from 10 to 25 microns and one quarter to one inch in length provide the final product having less loft and greater density. It is further noted that the reference teaches shredded fibers, which are equate to the claimed chopped fibers. (Col. 4, lines 4-30) With regards to the percentage by weight of the fibers and binder in the final product, Table I shows, that preferred values are 50-75% glass fibers, 10-30% synthetic fibers and 9-25% thermosetting resin. (Refer to Col. 5) The thermosetting resin may be one of a broad range of general purpose, engineering or specialty thermosetting resins. (Col. 4, lines 37-45)

While the product of CHENOWETH provides the claimed fibers and a thermosetting binder, the reference fails to specify that the binder is at least partially cured and comprises before drying and curing a homopolymer or a copolymer of polyacrylic acid and a polyol.

ARKENS et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches the use of their binder for heat-resistant nonwoven fabrics such as, for

example, nonwovens that contain heat-resistant fibers such as for example, aramid fibers, certain polyester fibers, glass fibers, among others. By "heat-resistant fibers" is meant (in Arkens et al.), fibers which are substantially unaffected by exposure to temperatures above 125°C. (Refer to Col. 8, lines 23-31) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components. (Refer to Col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3)

Since both references are directed to useful in insulation applications the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of CHENOWETH.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the binder of CHENOWETH and provide them with the binder composition of ARKENS et al. with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS et al. (Col. 1, lines 11-55).

Although the prior art of CHENOWETH in combination with ARKENS does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength and Taber Stiffness it is reasonable to presume that this property is inherent to a mat from the combination

of CHENOWETH and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength and Taber Stiffness would obviously have been present one the product form the combination of CHENOWETH and ARKENS is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

With regards to the claimed property of passing the NFPA Method #701 Flammability Test, it is the Examiner's position that such property will also be inherent to the structure from the combination of Chenoweth and Arkens for the same reasons stated in the paragraph above.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 51-69, 71-94 and 99 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 62-95 of copending Application No. 10/717,802 in view of GEEL (US 2003/0109190 A1). The claims of the copending application fail to teach the inclusion of man-made polymer fibers as a blend with glass fibers. GEEL discloses a nonwoven reinforcing mat that includes a base web having about 10 to about 80 percent by weight glass fibers, about 20 to about 90 percent by weight polyethylene terephthalate fibers and binders. (Abstract) The reference uses polyethylene terephthalate (polyester) fibers as the polymer fibers with diameter of from about 6 to about 16 microns and a length of from about 4 to about 25 mm [*0.15-0.98 inches*]. (Refer to [0008]-[0009]) It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the polymer fibers with the motivation of improving the tear strength, improved resistance against moisture and rot as disclosed by GEEL. [0015]

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

13. Applicant's arguments filed 9/12/06 have been fully considered but they are not persuasive.

a. With regards to the prior art of GEEL, Applicants argue that it discloses a nonwoven mat for use in vinyl flooring, a completely different application having completely different requirements than application the presently claimed mat is designed for. Further, that GEEL teaches a mat having two binders. Applicants indicate that the application that the mats of the invention were designed for are for ceiling tiles of the type disclosed in US Pat. App. No. 2002020142 as pointed out in the specification.

It is noted that the present invention as claimed is directed to a fibrous nonwoven mat not to a ceiling tile. Applicants need to demonstrate how the nonwoven mat claimed

is different from the structure provided by the prior art of record. It is further noted that reciting the physical and chemical characteristics of the claimed product will not suffice where it is not certain that a sufficient number of characteristics have been recited that the claim reads only on the particular compound which the applicant has invented. *Ex parte Siddiqui* 156 USPQ 426 ; *Ex parte Davission et al.* 133 USPQ 400 ; *Ex parte Fox* 128 USPQ 157. It is not clear how the claimed physical properties are achieved as to make the structure different from that of the prior art. (i.e. is there a particular process that is responsible for the claimed properties that is not used by the prior art and would show that the prior art cannot inherently have these properties?) With regards to GEEL having two binders, the language in the claims do not preclude having an additional component.

b. With regards to the prior art of CHENOWETH et al., Applicants argue that Chenoweth et al. do not teach making a mat, but an insulating blanket nor that the glass fibers are chopped.

It is noted that CHENOWETH et al. teaches a mat or blanket. (Col. 4, lines 26-30) Further teaches the use of "shredded" fibers (Col. 4, lines 26-29), which are equated to the claimed chopped glass fibers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

September 22, 2006